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LETTER DATED 27 JULY 1998 FROM THE SECRETARY-GENERAL ADDRESSED TO THE PRESIDENT OF THE SECURITY COUNCIL

I have the honour to convey the attached communication, dated 27 July 1998, which I have received from the Director General of the International Atomic Energy Agency.

I should be grateful if you would bring the Director General's letter to the attention of the members of the Security Council.

(Signed) Kofi A. ANNAN

98-21802 (E) 270798

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Annex

Letter dated 27 July 1998 from the Director General of the International Atomic Energy Agency addressed to the Secretary-General

It would be appreciated if you could arrange to transmit to the President of the Security Council the enclosed status report on Iraq as requested in the statement of the President of the Security Council issued on 14 May 1998.

(Signed) Mohamed ELBARADEI

Appendix

Interim status report of the Director General of the International Atomic Energy Agency in response to the Presidential statement on Iraq of 14 May 1998

INTRODUCTION

1. On 14 May 1998, the President of the Security Council issued a statement on Iraq on behalf of the Council (S/PRST/1998/11), which stated, inter alia:

> "The Council affirms its intention, given the progress of the IAEA, and in line with paragraphs 12 and 13 of resolution 687 (1991), to agree in a resolution that the IAEA dedicate its resources to implement the ongoing monitoring and verification activities of the IAEA under resolution 715 (1991) of 11 October 1991, upon receipt of a report from the Director General of the IAEA stating that the necessary technical and substantive clarifications have been made, including provision by Iraq of the necessary responses to all IAEA questions and concerns, in order to permit full implementation of the ongoing monitoring and verification plan approved by resolution 715 (1991). In this regard, the Council requests the Director General of the IAEA to provide this information in his report due on 11 October 1998 and to submit a status report by the end of July 1998 for possible action at that time."

2. The present status report, submitted in response to the latter request, provides a brief overview of Iraq's nuclear weapons capability, as currently understood, and addresses outstanding questions and concerns, including the results of discussions held in Iraq during the visit of the leader of the International Atomic Energy Agency (IAEA) Iraq Action Team from 29 June to 3 July 1998. In addition, the report provides information on the scope and nature of the IAEA's ongoing monitoring and verification (OMV) activities, describes the actions currently under way to strengthen the OMV plan and draws attention to the eventual need to put into effect a mechanism to ensure secure and adequate long-term funding.

STATUS OF IRAQ'S NUCLEAR WEAPONS CAPABILITY

3. The status of Iraq's nuclear weapons capability is described in detail in the progress report of the Director General of IAEA to the Security Council of 8 October 1997 (S/1997/779). The paragraphs from the summary section of that report are included as enclosure I to the present report. The paragraphs from the summary sections of IAEA's January and April 1998 reports to the Security Council (S/1998/38 and S/1998/312, respectively) are included as enclosures II and III to the present report.

4. The progress report of 8 October 1997 outlines the laborious process that IAEA has been forced to pursue as a result of Iraq's minimalistic approach in responding to questions from IAEA. It is clear that Iraq initially pursued a strategy of concealment, but, after high-level talks in 1993, started to release

more information, particularly regarding its procurement networks. Following the August 1995 departure from Iraq of the late Lieutenant-General Hussein Kamel, Iraq released a considerable amount of additional information regarding previously concealed aspects of its clandestine nuclear programme, in particular the centrifuge enrichment programme and the development of the explosive package of the nuclear weapon. However, the provision of information by Iraq has seldom, if ever, been voluntary and Iraq's cooperation in this regard has never approached full transparency.

5. Nonetheless, IAEA, through its extensive programme of inspection in Iraq, has assembled a technically coherent picture of Iraq's clandestine nuclear programme and has taken actions to destroy, remove and render harmless the known components of that programme and to verify, through an extensive programme of excavation, the remnants of equipment and materials unilaterally destroyed by Iraq. These activities have provided the basis for IAEA's statement that there are no indications of Iraq having retained any physical capability for the indigenous production of weapon-usable nuclear material in amounts of any practical significance. Again, although Iraq was at, or close to, the threshold of success in its endeavour to produce highly enriched uranium through the electro-magnetic isotope separation (EMIS) process, there is no indication that Iraq has produced more than a few grams of weapon-usable nuclear material nor any indication that Iraq has otherwise acquired such material.

6. Furthermore, there are no indications that Iraq has achieved its programme's goal of producing nuclear weapons. However, it is clear that Iraq had made significant progress in weaponization technologies before April 1991. It is also clear that there remains in Iraq a considerable intellectual resource in the form of the cadre of well-educated, highly experienced personnel who were employed in Iraq's clandestine nuclear programme. It should be recognized that Iraq's direct acquisition of weapon-usable nuclear material would present a severe technical challenge to OMV measures and that great reliance must be placed on international controls.

COMPLETENESS OF THE TECHNICALLY COHERENT PICTURE

7. As has been previously recorded, some uncertainty is inevitable in any country-wide technical verification process that aims to prove the absence of readily concealable objects, such as components of centrifuge machines or copies of weapon-related documentation, or activities such as small-scale enrichment or weaponization experimentation or computer-based studies. Thus, although IAEA has assembled a technically coherent picture of Iraq's clandestine nuclear programme, there is an inherent uncertainty in the completeness of that picture deriving from the possible existence of duplicate facilities or the possible existence of anomalous activities or facilities outside the technically coherent picture. This inherent uncertainty is compounded by Iraq's lack of full transparency in the provision of information, which has resulted in added uncertainties regarding the extent of external assistance to Iraq's clandestine nuclear programme and Iraq's achievements in some aspects of its clandestine nuclear programme, owing to the absence of related programme documentation.

8. A statement by IAEA that it has found "no indication" of prohibited equipment, materials or activities in Iraq is not the same as a statement of "non-existence" of prohibited equipment, materials or activities. Indeed, it is prudent to assume that Iraq has retained documentation of its clandestine nuclear programme, specimens of important components and possibly amounts of non-enriched uranium.

External assistance

9. During the June/July 1998 discussions, an attempt was made to identify an individual who had allegedly made an offer of external (foreign) assistance to Iraq in connection with its clandestine nuclear programme. Although these discussions did not result in any further progress, the Iraqi counterpart agreed to assist the Action Team in locating an Iraqi expatriate who might be able to contribute to the ongoing investigation. As previously recorded, IAEA holds no evidence to suggest that Iraq took advantage of the offer of external assistance under investigation. However, IAEA plans to continue its efforts to identify and locate the individual who allegedly made this offer.

Absence of documentation

10. During the June/July 1998 discussions, IAEA again raised with Iraq the matter of Iraq's declared inability to provide certain drawings, documents and experimental test data. Specifically, Iraq has maintained that it no longer has in its possession weapon-design engineering drawings, the Al QaQaa drawing register, experimental data on the results of PC-3 (the cover organization of the clandestine nuclear programme) related experimental work carried out at Al QaQaa after 1988, drawings of explosive lenses or the drawings received from foreign sources in connection with Iraq's centrifuge uranium enrichment programme.

11. These matters were followed up by letter of 12 July 1998 from the leader of the IAEA Action Team. In a written response, dated 16 July, the Iraqi counterpart indicated that it had no further information to offer other than that already included in the consolidated version of its Full, Final and Complete Declaration.

ABANDONMENT OF THE CLANDESTINE NUCLEAR PROGRAMME

12. In order to compensate for the uncertainty in the completeness of the technically coherent picture of Iraq's clandestine nuclear programme, IAEA has, since the second half of 1996, maintained a dialogue with the Iraqi counterpart in an endeavour to locate verifiable documentation supporting Iraq's statement that it has abandoned its clandestine nuclear programme. It was within the context of "abandonment" that the matters addressed in paragraph 27 of IAEA's April 1998 progress report (S/1998/312), namely the existence of a formally constituted "high governmental committee" and the motives behind the actions attributed by Iraq to the late Lieutenant-General Hussein Kamel, have been discussed with the Iraqi counterpart. Iraq's position on these two specific matters is well documented: namely, that the so-called "high governmental committee" was not constituted as a formal entity but was an ad hoc group called

together from time to time by Deputy Prime Minister Tariq Aziz to deal with specific United Nations-related matters, and that the late Lieutenant-General Hussein Kamel had, without the knowledge or the authorization of the Government of Iraq, concealed equipment, materials and documentation from IAEA and the United Nations Special Commission.

13. These matters were not specifically re-addressed during the June/July 1998 discussions, which focused on the attempts to locate documentary evidence of Iraq's stated abandonment of its clandestine nuclear programme. The Iraqi counterpart stated that it had been unsuccessful in its endeavours to locate verifiable documentation of the abandonment of the clandestine nuclear programme. The counterpart reiterated its contention that since no government decree had been issued to establish the programme, no complementary decree had been required to record its abandonment. The counterpart further stated that the efforts to locate any records of official discussions relating to programme abandonment had been unsuccessful. The Iraqi counterpart restated its opinion that the official decrees and orders already provided to IAEA documenting the dissolution of PC-3 and the revised missions of the establishments associated with PC-3 provided substantial evidence of programme abandonment. The counterpart, nonetheless, expressed itself ready to explore other possibilities to provide additional evidence of programme abandonment, but declared itself unable to identify a practical course of action.

14. In a later discussion on this subject, Deputy Prime Minister Tariq Aziz referred to Iraq's unconditional reaffirmation of its obligations under the Treaty on the Non-Proliferation of Nuclear Weapons, to Iraq's acceptance of resolutions 687 (1991) and 715 (1991) and to IAEA's freedom of movement throughout Iraq. He went on to reaffirm his explanation of his role in the coordination of actions associated with Iraq's declarations to IAEA and the Special Commission and with Iraq's unilateral destruction of programme components. He reiterated that this had been an undocumented ad hoc progression of activities undertaken in reaction to events. Mr. Tariq Aziz stated unequivocally that, for the reasons previously discussed, no Government decree existed which formalized Iraq's abandonment of its nuclear programme. He further stated that had such a decree existed, it would clearly have been in the best interests of Iraq to make it available to IAEA.

15. In a written response, dated 16 July 1998, to a related request from IAEA, Dr. Riyadh al Qaysi, Under-Secretary, Iraqi Ministry of Foreign Affairs, provided a brief summary of Iraq's explanation for the absence of documentary evidence of its decision to abandon its clandestine nuclear programme. This summary did not contribute any new information.

16. It is perhaps of little practical significance whether a so-called "high government committee" was formally constituted or was, as explained by the Deputy Prime Minister, an ad hoc group of varying composition brought together to deal with problems as they arose. In the matter of the motives behind the actions attributed by Iraq to the late Lieutenant-General Hussein Kamel, it is beyond debate that concealment of components of Iraq's clandestine nuclear programme continued until at least August 1995. It remains difficult for IAEA to distinguish the actions of such a senior Government official from that of the Government itself.

Legislation required under the ongoing monitoring and verification plan

17. As recorded in paragraph 24 of the progress report of 9 April 1998, paragraph 34 of the IAEA OMV plan places a requirement on Iraq to adopt the necessary measures to implement its obligations under resolutions 687 (1991) and 707 (1991), other relevant Security Council resolutions and the IAEA's OMV plan, and, in particular, to enact penal laws to prohibit all natural and legal persons under Iraq's jurisdiction or control from undertaking anywhere any activity that is prohibited for Iraq by relevant Security Council resolutions or by the IAEA's OMV plan. Paragraph 35 of the IAEA OMV plan requires that Iraq inform IAEA of the legislative and administrative measures taken to implement resolutions 687 (1991) and 707 (1991), other relevant Security Council resolutions and the OMV plan not later than 30 days after the approval by the Security Council of the plan and thereafter as determined by IAEA. It is relevant to recall that the IAEA OMV plan was approved by resolution 715 (1991) of 11 October 1991 and that on 26 November 1993 Iraq accepted its obligations set forth in that resolution and the provisions of the plans for monitoring and verification contained therein.

18. The Iraqi counterpart acknowledged these obligations and, in a later discussion, Deputy Prime Minister Tariq Aziz stated that the implementation of the measures and, in particular, the enactment of the laws called for under the OMV plans of IAEA and the Special Commission was an inescapable requirement, which he expected that Iraq would satisfy before October 1998.

ONGOING MONITORING AND VERIFICATION

Implementation of the ongoing monitoring and verification plan

19. As defined in paragraph 13 of resolution 687 (1991), the purpose of the IAEA OMV plan is to monitor and verify Iraq's compliance with its obligations under paragraph 12 of that resolution: primarily, Iraq's obligation not to acquire or develop nuclear weapons or nuclear-weapon-usable material or any subsystems or components or any related research, development or manufacturing facilities. The overall goal of ongoing monitoring and verification is to provide reaffirmation that Iraq's clandestine nuclear programme has been neutralized and is not being reconstituted.

20. The OMV plan is thus designed to provide timely detection of indications of any attempt by Iraq to reconstitute its clandestine nuclear programme, or more specifically, to give assurance of the absence of prohibited equipment, materials and activities. The plan takes fully into account the extensive technological expertise developed by Iraq in the course of its clandestine nuclear programme, particularly regarding the production of weapon-usable nuclear material. The OMV plan also takes into account the uncertainties referred to in paragraphs 7 to 10 above and is predicated on the assumption that Iraq retains the capability to exploit, for nuclear weapons purposes, any relevant materials or technology to which it may gain access in the future.

21. Effective ongoing monitoring and verification in Iraq, as required by resolution 687 (1991), must be comprehensive and rigorous and, as a result, is

intrusive. The effectiveness of the implementation of the IAEA OMV plan is critically dependent upon the full exercise of the rights of access enshrined in the plan. Any diminution of, or interference with, those rights would greatly reduce the level of assurance provided through its implementation.

22. The procedures and techniques initially employed by IAEA to map out Iraq's clandestine nuclear programme were designed to detect the presence of prohibited equipment, materials and activities. IAEA employs essentially the same procedures and techniques under its OMV plan to provide assurance of the absence of prohibited equipment, materials and activities.

23. These procedures and techniques include, but are not limited to: unannounced inspections of known locations; unannounced inspections of previously un-inspected locations; examination of records, equipment, materials and products; sampling of materials and work surfaces; interviews of personnel in the workplace; overhead imagery analysis; and environmental monitoring, including aerial and land-based radiation surveys, hydrological sampling, vegetation sampling, air sampling and deposition sampling. These practical measures are complemented by the following up of information derived from the results of inspections, from analysis of Iraqi documentation, from open source information and from other information provided by Member States. IAEA will, in the future, make use of any other verification technology that could facilitate the fulfilment of its mandate.

24. Implementation of the IAEA OMV plan has been phased in since the second half of 1992 and was considered to be operational in August 1994 with the establishment of IAEA's continuous presence in Iraq through the Action Team's Nuclear Monitoring Group. Since that time, action has been ongoing to increase the scope and technology of OMV measures with corresponding increases in the personnel resources of the Nuclear Monitoring Group.

25. The measures implemented under the OMV plan must not only provide credible assurance of the absence of prohibited equipment, materials and activities at routinely inspected locations, but must also provide a significant probability of detecting prohibited equipment, materials or activities at other locations. Thus the OMV plan must incorporate a comprehensive search capability designed to detect signs of prohibited activities being carried out at locations that are not routinely monitored. It is to further strengthen this latter capability that IAEA is currently in the process of expanding and consolidating a number of its activities into a wide-area environmental monitoring programme.

Funding for the long-term implementation of the International Atomic Energy Agency ongoing monitoring and verification plan

26. The Security Council, in paragraph 4 of resolution 699 (1991), decided that Iraq shall be liable for the full costs of carrying out the tasks authorized by section C of resolution 687 (1991). In that same paragraph, the Security Council also encouraged the maximum assistance in cash and kind from all Member States to ensure that those tasks are undertaken effectively and expeditiously. Up to this stage, cash resources to fund IAEA's activities related to Iraq have been provided through the United Nations Special Commission from donations from Member States and from liquidated Iraqi assets and Iraqi oil revenues.

Assistance in kind from Member States provided directly to IAEA has included cost-free personnel resources, equipment, sample analysis and data evaluation. The value of this assistance in kind is estimated to total, on average, four million dollars per year. As a result of this contribution from Member States, the IAEA Action Team has been able to limit its average annual direct cash expenditure to some three million dollars.

27. Taking into account the costs of the planned wide-area environmental monitoring programme (personnel resources, equipment, sample processing and analysis, data evaluation and data management), the estimated total annual cost of implementing the IAEA OMV plan will be some nine million dollars, not including the costs of logistical and other assistance provided by the Special Commission. It is assumed that, in accordance with Iraq's obligation under paragraph 4 of resolution 699 (1991), a mechanism will be put into effect to secure long-term funding for the implementation costs of the OMV plans of IAEA and the Special Commission, preferably including provisions to compensate for the effect of any interruption in the flow of funding.

28. Based on current experience, the effective implementation of the IAEA OMV plan will require the continuous presence in Iraq of the IAEA Nuclear Monitoring Group, comprising up to eight technical staff and one or two administrative support personnel, supplemented, from time to time, with additional technical staff as specific monitoring tasks may require. IAEA will continue to draw upon the technical personnel resources of Member States to assist the Action Team in the implementation of the IAEA OMV plan, but it is anticipated that such resources would eventually cease to be "cost-free".

Ongoing monitoring and verification operational matters

29. During the June/July discussions, IAEA's need to establish technical facilities at the Rashid airbase to support the fixed-wing radiation survey planned for September 1998 was raised with the Iraqi counterpart and was later discussed, in some detail, with Deputy Prime Minister Tariq Aziz. The Rashid airbase is conveniently near the Baghdad Monitoring and Verification Centre and is the base from which the United Nations helicopter fleet operates. The fixed-wing radiation survey is an OMV technical task, which is to be implemented for the first time in Iraq and is likely to require considerable technical support from the IAEA Nuclear Monitoring Group. It was to ensure that this technical support could be readily available that IAEA had asked that the survey operate out of the Rashid airbase.

30. Mr. Tariq Aziz stated that Iraq was fully aware of IAEA's rights under the OMV plan and that Iraq was pledged to respect those rights. Furthermore, he stated that Iraq was committed to provide full cooperation to IAEA in the implementation of the OMV plan. However, he explained that, at this point in time, Iraq could "not afford to scatter its resources", and therefore could not provide the necessary support for the safe operation of the survey airplane from the Rashid airbase. He indicated that IAEA should, at this time, operate the survey campaign from the Habanniya airbase. In a subsequent exchange of letters, Iraq confirmed that it was "ready to provide refuelling services to IAEA aircraft (for Gamma survey) in the functioning airbases in Iraq (i.e. with the exception of Basra airport - which Iraq had previously stated to be

non-functional - and Arbil airport, which is not under the control of Government authorities)." This statement is taken to mean that, with the foregoing exceptions, the airbases routinely providing refuelling services to the United Nations helicopters will also provide refuelling services for the survey aircraft.

31. One of the technical sessions held during the June/July discussions was devoted to discussion of the practical measures implemented under the OMV plan, as listed in paragraph 23 above, and, in particular, to the expansion of the implementation of a number of those measures within a consolidated wide-area environmental monitoring programme. The Iraqi counterpart reaffirmed its willingness to continue to provide the practical facilities and cooperation required to implement the OMV plan, but suggested that the implementation of wide-area environmental monitoring should lead to a reduction of the more intrusive aspects of OMV. It is the opinion of IAEA that such considerations would be premature.

32. In a later discussion, the senior nuclear counterpart strongly expressed the view that Iraq was entitled to have access to the "raw data" collected by IAEA through its wide-area environmental monitoring programme and, in particular, to the data collected through aerial radiation surveys. IAEA considers the sharing of raw data with Iraq to be entirely inappropriate since it is essential that IAEA keep the detection capabilities of its measurement and analytical techniques confidential. IAEA had, nonetheless, previously conveyed its intention to notify Iraq of any survey data indicating a significant potential radiation dose to the population, in relation to international norms.

33. As has been previously reported, Iraq has made progress in improving the quality and completeness of its declaration under annex 2 of the IAEA OMV plan. Nonetheless, there is still a need to further improve the quality and completeness of the declarations and to remove inconsistencies between the information contained therein and that recorded in Iraq's Full, Final and Complete Declaration. In this regard, the Iraqi counterpart has been advised that members of the IAEA Action Team will visit Iraq in September to discuss the adequacy of the declarations provided to IAEA in July 1998. However, experience indicates that improvement in quality and consistency will only be achieved if Iraq assigns additional technical personnel resources to the National Monitoring Directorate.

34. Discussions on other OMV operational matters will be addressed, as appropriate, in the October 1998 progress report.

SUMMARY AND OBSERVATIONS

35. As previously recorded, there are no indications of Iraq having retained any physical capability for the indigenous production of weapon-usable nuclear material in amounts of any practical significance, nor any indication Iraq has acquired or produced weapon-usable nuclear material other than the nuclear material verified by IAEA and removed from Iraq in accordance with paragraph 13 of resolution 687 (1991).

36. Although there are no indications of Iraq having achieved its programme's goal of producing nuclear weapons, it is clear that Iraq had made significant progress in weaponization technologies before April 1991. It is also clear that there remains in Iraq a considerable intellectual resource in the form of the cadre of well-educated, highly experienced personnel who were employed in Iraq's clandestine nuclear programme.

37. The progress report of 8 October 1997 to the Security Council (S/1997/779) recorded that some uncertainty is inevitable in any country-wide technical verification process that aims to prove the absence of readily concealable objects or activities. This inherent uncertainty is compounded by Iraq's lack of full transparency in the provision of information, which has resulted in uncertainties regarding the extent of external assistance to Iraq's clandestine nuclear programme and Iraq's actual achievements in some aspects of that programme.

38. This uncertainty, discussed in paragraphs 7 to 10 above, is factored into the IAEA OMV plan, which takes fully into account the extensive technological expertise developed by Iraq in the course of its clandestine nuclear programme, particularly regarding the production of weapon-usable nuclear material, and is predicated on the assumption that Iraq has the knowledge and the technical capability to exploit, for nuclear weapons purposes, any relevant materials or technology to which it may gain access in the future.

39. While no indications of the current existence of proscribed equipment or materials in Iraq have been found, IAEA, despite its extensive inspection activities, cannot, for the reasons previously described, provide absolute assurance of the absence of readily concealable items, such as components of centrifuge machines or copies of weapon-related documentation. Similarly, it should be recognized that OMV measures cannot guarantee detection of readily concealable or disguisable proscribed activities, such as computer-based weaponization studies or small-scale centrifuge cascade development. Furthermore, Iraq's direct acquisition of weapon-usable nuclear material would present a severe technical challenge to OMV measures and great reliance must be placed on international controls.

40. In order to further strengthen the overall capability of its OMV plan, IAEA is currently in the process of expanding and consolidating a number of its activities into a wide-area environmental monitoring programme.

41. Effective ongoing monitoring and verification in Iraq, as required by resolution 687 (1991), must be comprehensive and rigorous and, as a result, is intrusive. The effectiveness of the implementation of the IAEA OMV plan is critically dependent upon the full exercise of the rights of access enshrined in the plan. Any diminution of, or interference with, those rights would greatly reduce the value of the assurance provided through its implementation.

42. With regard to the responses provided by Iraq to the remaining questions and concerns about its clandestine nuclear programme, IAEA holds no evidence to confirm or refute that Iraq did not take advantage of any offers of external assistance to its clandestine nuclear programme other than that recorded in its Full, Final and Complete Declaration or that no other relevant documentation

exists to support Iraq's stated abandonment of its clandestine nuclear programme, its timing and modalities.

43. IAEA will continue, in the context of its OMV, to investigate, through the follow-up of any new information that comes to its knowledge, the questions and concerns referred to in paragraph 42 above, as well as any other aspect of Iraq's clandestine programme, and will destroy, remove or render harmless any prohibited items that may be discovered through such investigations.

44. IAEA continues to focus most of its resources on the implementation and technical strengthening of its plan for the ongoing monitoring and verification of Iraq's compliance with its obligations under the relevant Security Council resolutions. The procedures and techniques employed in OMV are essentially the same as the procedures and techniques employed by IAEA to map out Iraq's clandestine nuclear programme. The OMV plan does not foreclose IAEA's right to investigate further any aspect of Iraq's clandestine nuclear programme and to destroy, remove or render harmless any prohibited items that may be discovered through such investigations.

Enclosure I

Paragraphs from the summary section of document S/1997/779 of 8 October 1997

Summary

73. The Security Council, in resolution 687 (1991), envisaged that, within fifteen days of adoption of the resolution, Iraq would submit to the Director General of the IAEA a declaration of the locations, amounts and types of all items specified in paragraph 12 of the resolution. It further envisaged that the IAEA would carry out immediate on-site inspections of Iraq's nuclear capabilities based on Iraq's declarations and the designation of any additional locations by the Special Commission, and that the Agency would develop a plan for submission to the Security Council within forty-five days calling for the destruction, removal or rendering harmless, as appropriate, of all items listed in paragraph 12 of the resolution. The IAEA was expected to commence to carry out that plan within forty-five days after its approval by the Security Council.

74. It was not possible for the IAEA to follow such a timetable, primarily because Iraq chose to follow a course of denial, concealment and obstruction, rather than meeting its obligation to provide, at the outset, the declaration foreseen by resolution 687. The initial declarations provided by Iraq were totally inadequate and the IAEA's access to designated inspection sites was obstructed. Following the visit to Iraq in July 1991 of a United Nations/IAEA high-level delegation and the personal intervention of the Secretary-General, Iraq modified its initial approach and provided a considerably expanded, though still incomplete declaration. However, Iraq continued to conceal and deny aspects of its weaponization and centrifuge enrichment activities until the revelations which followed the August 1995 departure from Iraq of the late Lt. Gen. Hussein Kamel. Since that time, Iraq has been more forthcoming in providing information, although it still continues to limit the scope of information provided in response to IAEA questioning in an effort to understate the capabilities developed within the clandestine nuclear programme.

75. In connection with its technical team visits, since May 1997, the IAEA has received clarification of many matters raised with the Iraqi counterpart. While containing little new information, Iraq's written statements provided a helpful collation of previously reviewed information. In one critical area, Iraq was able to provide copies of correspondence which, if genuine, provide strong corroboration of Iraq's description of the status, as of the end of 1990, of its work to develop explosive lenses. However, the Iraqi counterpart: has not provided a comprehensive written statement of the membership, terms of reference and duration of authority of the Governmental Committee charged, *inter alia*, to "reduce the effect of NPT violation to the minimum"; has stated that it has no further information regarding external assistance to its clandestine nuclear programme; has declared itself unable to describe the motives behind the actions ascribed to the late Lt. Gen. Hussein Kamel which resulted in the concealment of the cache of documentation, material and equipment "discovered" at the Haider House farm; has declined to include, in its FFCD a summary of the practical and theoretical achievements of Iraq's clandestine nuclear programme; and has yet to provide the promised written description of its post-war procurement system.

76. Iraq's lack of co-operation has required the IAEA to follow a protracted and painstaking process involving on-site inspections, collection and analysis of procurement information and follow-up of other information provided by member States. The results of the IAEA's investigation have over many years yielded a technically coherent picture of Iraq's clandestine nuclear programme.

77. Although certain documentary evidence is missing and some gaps in knowledge remain, the following can be stated with regard to Iraq's clandestine programme:

- There are no indications to suggest that Iraq was successful in its attempt to produce nuclear weapons. Iraq's explanation of its progress towards the finalisation of a workable design for its nuclear weapons is considered to be consistent with the resources and time scale indicated by the available programme documentation. However, no documentation or other evidence is available to show the actual status of the weapon design when the programme was interrupted.

- Iraq was at, or close to, the threshold of success in such areas as the production of HEU through the EMIS process, the production and pilot cascading of single-cylinder sub-critical gas centrifuge machines, and the fabrication of the explosive package for a nuclear weapon.

- There are no indications to suggest that Iraq had produced more that a few grams of weapon-usable nuclear material (HEU or separated plutonium) through its indigenous processes, all of which has been removed from Iraq.

- There are no indications that Iraq otherwise acquired weapon-usable nuclear material.

- All of the safeguarded research reactor fuel, including the HEU fuel that Iraq had planned to divert to its "crash programme", was verified and fully accounted for by the IAEA and removed from Iraq.

- There are no indications that there remains in Iraq any physical capability for the production of amounts of weapon-usable nuclear material of any practical significance.

78. Iraq's description of its development of the single-cylinder sub-critical gas centrifuge is considered to be consistent with the resources and time scale indicated by the available documentation and the status of the related facilities. Although little documentation is available, it is clear that Iraq had intentions to exploit the information in its possession regarding multi-cylinder, super-critical centrifuge machines. It will be necessary to gain access to Iraq's foreign source of information in order to have the opportunity to verify Iraq's explanation that only limited exploratory design-work had been undertaken.

79. There are no indications of significant discrepancies between the technically coherent picture which has evolved of Iraq's past programme and the information contained in Iraq's FFCD-F issued on 7 September 1996, as supplemented by the written revisions and additions provided by Iraq since that time. However, taking into account the possibility, albeit remote, of

undetected duplicate facilities or the existence of anomalous activities or facilities outside this technically coherent picture, no absolute assurances can be given with regard to the completeness of Iraq's FFCD. Some uncertainty is inevitable in any country-wide technical verification process which aims to prove the absence of readily concealable objects or activities. The extent to which such uncertainty is acceptable is a policy judgement.

80. Most of the IAEA activities involving the destruction, removal and rendering harmless of the components of Iraq's nuclear weapons programme which to date have been revealed and destroyed, were completed by the end of 1992 (see attachment 3). Since that time, only a relatively small number of items of proscribed equipment and materials have been identified and disposed of, most of which were handed over to the IAEA by Iraq since the events of August 1995. While no indications of the presence of further proscribed equipment or materials in Iraq have been found, the IAEA, despite its extensive inspection activities, cannot, for the reasons described in the previous paragraph, provide absolute assurance of the absence of readily concealable items, such as components of centrifuge machines or copies of weapon-related documentation.

81. The IAEA's ongoing monitoring and verification (OMV) plan was phased-in during the period from November 1992 to August 1994, at which time it was considered to be operational. Taking into account the extensive technological expertise developed by Iraq in the course of its clandestine nuclear programme, the OMV plan is predicated on the assumption that Iraq retains the capability to exploit, for nuclear weapons purposes, any materials or technology to which it may gain access in the future.

82. Implementation of the OMV plan has not resulted in the detection of any indications of ongoing proscribed activities or the presence in Iraq of proscribed equipment or materials apart from the items referred to in paragraph 80. It should be recognised, however, that OMV measures cannot guarantee detection of readily concealable or disguisable proscribed activities, such as computer-based weaponization studies or small-scale centrifuge cascade development. Iraq's direct acquisition of weapon-usable nuclear material would also present a severe technical challenge to the OMV measures and great reliance must be placed on international controls.

83. As indicated in the foregoing, the IAEA's activities regarding the investigation of Iraq's clandestine nuclear programme have reached a point of diminishing returns and the IAEA is focusing most of its resources on the implementation and technical strengthening of its plan for the ongoing monitoring and verification of Iraq's compliance with its obligations under the relevant Security Council resolutions. The IAEA is not "closing the books" on its investigation of Iraq's clandestine nuclear programme and will continue to exercise its right to investigate any aspect of Iraq's clandestine nuclear programme, in particular, through the follow-up of any new information developed by the IAEA or provided by member States and assessed by the IAEA to warrant further investigation, and to destroy, remove or render harmless any proscribed items discovered through such investigations.

Enclosure II

Paragraphs from the summary section of document S/1998/38 of 15 January 1998

E. Summary

25. The information provided by Iraq in respect of its post-war procurement procedures will contribute to the ability of IAEA to identify actions that might indicate Iraq's clandestine procurement of proscribed or dual-use equipment and materials. Future information requirements in this regard will be pursued in the course of ongoing monitoring and verification activities.

26. The specification of the scope and content for the summary of the technical achievements of Iraq's clandestine nuclear programme that IAEA provided to the Iraqi counterpart should facilitate the production by Iraq of a document that will provide further assurance that the technically coherent picture of Iraq's clandestine nuclear programme is comprehensive. It will also assist IAEA in optimizing its ongoing monitoring and verification activities.

27. The specific instance of external assistance offered to Iraq's clandestine nuclear programme, reported in section B.3 above, has been extensively discussed with the Iraqi counterpart. It has not been possible to confirm independently the veracity of Iraq's statement that it took no action to follow up on that offer or, indeed, on any similar offer. At this point in time, IAEA holds no information on which to base further investigation of this matter with the Iraqi counterpart. Iraq's direct acquisition of weapon-usable nuclear material or nuclear weapon-related technology will, however, continue to be a matter of major concern to IAEA, and high priority will continue to be given to the investigation of any indication of such acquisition.

28. Although the related matters of the existence of the so-called governmental committee and the motives behind the actions attributed to the late Lt.-Gen. Hussein Kamel have been investigated by IAEA to the extent feasible, it has not been possible to confirm independently the veracity of Iraq's statements in those respects. There is, at this point in time, no information available to IAEA on which to base further investigation.

29. Although it is difficult to understand the apparent lack of focus at such a critical stage in Iraq's weaponization development, IAEA has no information that contradicts Iraq's statement that it had never identified nuclear weapon design options beyond those preliminary concepts described in its report entitled "Basic design report of the implosion device" dated 14 July 1990. Nonetheless, the IAEA ongoing monitoring and verification plan is predicated on the assumption that Iraq retains the technical capability to exploit, for nuclear weapons purposes, any relevant material to which it might gain access.

30. Iraq's cooperation with respect to the use of fixed-wing aircraft in conjunction with technical activities will contribute to the efficiency and effectiveness of the IAEA ongoing monitoring and verification plan. In this regard, IAEA intends to implement, in the near future, an aerial radiation survey campaign in Iraq, using a fixed-wing platform. For future campaigns,

IAEA will examine the feasibility of using Iraqi aircraft. IAEA will pursue, through the Special Commission, its requirements to use fixed-wing aircraft within Iraq for logistical purposes.

31. As recorded in document S/1997/779, IAEA is currently focusing most of its resources on the implementation and strengthening of its ongoing monitoring and verification plan. However, IAEA will continue to exercise its right to investigate any aspect of Iraq's clandestine nuclear programme, in particular through the follow-up of any new information that comes to its knowledge and is assessed by it to warrant further investigation, and to destroy, remove or render harmless any proscribed items that may be discovered through such investigations.

Enclosure III

Paragraphs from the summary section of document S/1998/312 of 9 April 1998

Summary

31. IAEA continues its programme to update the technology used in its monitoring activities and to extend the range of those activities. A component of this latter aspect is the completion of the baseline survey focused on environmental tritium concentrations. Work in other areas of technology is being actively pursued with the help of Member States. In keeping with the ongoing expansion of IAEA technical activities, the staffing of the IAEA Nuclear Monitoring Group has been increased through the provision of additional personnel resources from Member States.

32. During the period from 26 March to 3 April 1998, 15 IAEA experts participated in the special group, established under the memorandum of understanding agreed between the Secretary-General and the Government of Iraq on 23 February 1998, for the purpose of making entry to Iraq's presidential sites. The surveys undertaken by the special group were completed efficiently and were, in most instances, facilitated by practical cooperation provided by the Iraqi counterpart. The surveys conducted at the eight presidential sites revealed no immediate indications of the presence of prohibited materials or equipment or of the conduct of prohibited activities with respect to the mandate of IAEA under the relevant Security Council resolutions.

33. The Agency's ongoing monitoring and verification activities carried out since October 1997 have not revealed indications of the existence in Iraq of prohibited equipment or materials or of the conduct of prohibited activities.

34. Iraq has satisfactorily completed its undertaking to produce a consolidated version of its full, final and complete declaration of its clandestine nuclear programme. [The consolidation of the Full, Final and Complete Declaration, which was an editorial task, brought together in one document information provided by the Iraqi counterpart and previously examined by IAEA, in particular during team visits in February, May and July 1997.]

35. The Iraqi counterpart has fulfilled its obligation to produce a document containing a summary of the technical achievements of its clandestine nuclear programme. The summary is regarded by IAEA to be consistent with the technically coherent picture of Iraq's clandestine nuclear programme developed by IAEA in the course of its activities in Iraq.

36. As previously reported, IAEA is focusing most of its resources on the implementation and strengthening of the technical content of its activities under the OMV plan. IAEA will, however, continue to exercise its right to investigate any aspect of Iraq's clandestine nuclear programme, in particular through the follow-up of any new information developed by IAEA or provided by Member States, and to destroy, remove or render harmless any prohibited items discovered through such investigations.

37. In carrying out its activities in Iraq, IAEA has benefited from the assistance and cooperation of the United Nations Special Commission and, in particular, from the support of certain IAEA Member States which have provided technical personnel resources, access to advanced technologies and access to information.